

401 KAR 8:020. Public and semipublic water systems; general provisions.

RELATES TO: KRS 211.350-211.392, 223.160-223.220, 224.10-100, 224.10-110, 224.16-050, 369, 40 C.F.R. 141, 142.14, 142.15, 142.20, 142.21, 142.40-142.65, EO 2009-538

STATUTORY AUTHORITY: KRS 223.200, 224.10-100(28), 224.10-110(2), 40 C.F.R. 141.3, 141.31, 141.75, 142.14, 142.15, 142.20, 142.21, 142.40-142.65, 42 U.S.C. 300f-300j-26, EO 2009-538

NECESSITY, FUNCTION, AND CONFORMITY: KRS [224.10-100](#)(28) and [224.10-110](#)(2) authorize the cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. EO 2009-538, effective June 12, 2009, establishes the new Energy and Environment Cabinet. This administrative regulation establishes the general provisions for regulating public and semipublic water supplies.

Section 1. A public or semipublic water system shall be subject to the requirements of 401 KAR Chapter 8, except those exempted in [40 C.F.R. 141.3](#).

Section 2. (1) Public and semipublic water systems. A person shall not operate or commence operation of a public or semipublic water system except in compliance with the provisions of 401 KAR Chapter 8 and [40 C.F.R. 141](#). A water supply system constructed prior to November 11, 1990 may be continued in use, if the operation, maintenance, bacteriological, chemical, physical, and radiological standards comply with 401 KAR Chapter 8, or the system obtains a variance or exemption from those standards in accordance with [40 C.F.R. 141](#).

(2)(a) A cross-connection shall be prohibited.

(b) The use of automatic devices, such as a reduced pressure zone back flow preventer and a vacuum breaker, may be approved to protect public health, in lieu of air gap separation.

(c) A combination of air gap separation and an automatic device shall be required if determined by the cabinet to be necessary due to the degree of hazard to public health.

(d) Every public water system shall determine if or where a cross-connection exists and shall immediately eliminate it.

(3) A bypass shall not be created or maintained without the prior written approval of the cabinet stating the approved circumstances for establishment of a bypass, its design, and the exact conditions for its use.

(4) An auxiliary intake shall not be used in direct connection with a public or semipublic water system except with prior written approval from the cabinet stating the emergency condition that necessitates the intake.

(5) The plumbing system serving the purification plant and auxiliary facilities shall discharge to a sewer system if available.

(a) If a sewer is not available, the connection shall be made to a sewage disposal facility approved pursuant to KRS Chapter [211.350 through 211.392](#) or [224.16-050](#).

(b) There shall not be connections between the sewer system and a filter backwash, filter-to-waste drain, or clearwell overflow line, unless an air gap is provided between the drain and overflow line and the sanitary storm sewer or natural drainage system, so as to preclude the possibility of back-up of sewage or waste into the drain or overflow line.

(6) The owner or operator of a public water system shall operate and maintain the facilities and systems of treatment, intake, and distribution to comply with the provisions of 401 KAR Chapter 8. Operation and maintenance includes effective performance, preventive maintenance, operator staffing and training pursuant to 401 KAR [8:030](#), [11:040](#), and [11:050](#) establishing representative sample points that comply with the requirements of 401 KAR Chapter 8, and adequate process controls for testing, including quality assurance procedures.

(7) Reports to the cabinet.

(a) The supplier of water shall provide a complete monthly operating report to the cabinet, which shall be received at the Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601 not later than ten (10) days after the end of the month of which the report is filed.

1. A completed report shall include:

- a. Volume of water treated;
- b. Type and amount of chemicals added;
- c. Test results appropriate to be reported by the plant; and

d. The dated original signature, or equivalent, pursuant to [KRS Chapter 369](#), of the owner or authorized agent.

2. A supplier of water shall submit the reports required by [40 C.F.R. 141.75\(b\)](#) to the cabinet not later than ten (10) days after the end of each month the public water system serves water to the public.

3. A public water system shall report to the cabinet in accordance with [40 C.F.R. 141.31](#).

(b) Reports of failure to comply. A public water system shall report to the cabinet within forty-eight (48) hours, by phone or in writing, the failure to comply with a provision of 401 KAR Chapter 8, including the failure to comply with monitoring requirements.

(c) Emergency reports.

1. If a public water system experiences a line break or loss of pressure as established in [401 KAR 8:150](#), Section 4(2)(e), loss of disinfection, or other event that may result in contamination of the water, the public water system shall immediately report to the cabinet by calling the Division of Water in Frankfort at (502) 564-3410 or the appropriate regional field office of the Division of Water.

2. If a report required by this paragraph is made during other than normal business hours, it shall be made through the twenty-four (24) hour environmental emergency telephone number, (800) 928-2380.

(8) Records to be maintained. An owner or operator of a public water system shall keep the records established in [40 C.F.R. 141.33](#) on the premises or readily accessible to cabinet staff inspecting the system.

(9) Boil water and consumer advisories.

(a) Boil water advisories.

1. A public water system or semipublic water system shall issue boil water advisories if the system believes an advisory is warranted.

2. The cabinet may direct that a boil water advisory be issued upon:

a. The reception of confirmed positive bacteriological results including E. coli or fecal coliform in at least one (1) sample; or

b. Other circumstances that warrant an advisory for the protection of public health.

3. The cabinet may, if circumstances warrant for the protection of public health, issue a boil water advisory directly, rather than rely on a public or semipublic water system to issue the advisory.

4. Boil water advisories shall remain in effect until the cabinet approves the lifting of the advisory based on bacteriological results showing coliform bacteria are not present in the water.

(b) Consumer advisory.

1. The cabinet may issue a consumer advisory if:

a. Conditions within a public water system or semipublic water system indicate a possible adverse health effect from consumption of the water distributed by the system; or

b. Other information of interest to the consumer exists.

2. The advisory shall notify affected persons of a required or recommended action.

(c) A public or semipublic water system shall:

1. Immediately notify the local health department that serves the area affected if a boil water advisory or consumer advisory is issued.

a. The notification may be made by telephone or fax machine for an occurrence during normal business hours.

b. For an occurrence after normal business hours, the public or semipublic water system shall notify the affected local health department in a manner agreed upon by the system and affected health department; or

2. Develop a protocol with a local health department that describes when and how the system shall notify the affected health department if the system issues a boil water advisory or consumer advisory. The protocol shall address:

- a. For which types of advisories the system shall notify the affected health department;
- b. What procedures shall be used to notify and under what circumstances;
- c. How soon after the occurrence the notification shall be made; and
- d. To whom the notification shall be made, during and after business hours.

(10) How to issue advisory.

(a) A boil water advisory or consumer advisory shall be issued through newspapers, radio, television, or other media having an immediate public impact.

(b) As a health and safety measure, the water system shall repeat the notification during the period of imminent danger at intervals that maintain public awareness.

(c)1. The advisory shall be readily understandable and shall include instructions for the public, as well as an explanation of the steps being taken to correct the problem.

2. Boiling instructions shall caution to boil water to be used for consumption by boiling the water for at least three (3) minutes at a rolling boil.

(11) Maps.

(a) A public or semipublic water system shall have on the premises, or readily accessible to cabinet staff inspecting the system, an up-to-date map of the distribution system. The map shall, at a minimum, show:

1. Line size;
2. Cutoff valves;
3. Fire hydrants;
4. Flush hydrants;
5. Tanks;
6. Booster pumps;
7. Chlorination stations;
8. Connection to emergency or alternative sources;
9. Wholesale customer master meters; and
10. Type of piping material in the distribution system and its location.

(b)1. If a public water system is not able to comply with the requirements of paragraph (a) of this subsection the system may petition the cabinet to modify this requirement.

2. The petition for modification shall state specifically what portion of the requirements of paragraph (a) of this subsection is not practical and why.

(12) Operation and maintenance manual.

(a) Each public water system shall develop and keep on the premises, for operators and employees of the system, an operation and maintenance manual that includes:

1. A detailed design of the plant;
2. Daily operating procedures;
3. A schedule of testing requirements designating who is responsible for the tests; and
4. Safety procedures for operation of the facility, including storage and inventory requirements for materials and supplies used by the facility.

(b) The operation and maintenance manual shall be updated as necessary, but not less than annually, and shall be available for inspection by the cabinet.

(c) Public water systems serving fewer than 100 people or thirty (30) service connections may request that the cabinet waive the requirements of paragraphs (a) and (b) of this

subsection. The request shall be in writing and any waiver granted by the cabinet shall be in writing and be retained by the public water system for examination by cabinet personnel.

(13) Flushing recommended.

(a) To protect public health, a distribution system may be thoroughly flushed at least twice a year, usually in the spring and fall. The purpose of systematic flushing is to reduce turbidity created from the scouring of accumulated sediment within the water lines.

1. Flushing shall start at the hydrants nearest the source of supply and proceed in an outward direction to the end of each main.

2. Flushing shall continue at each hydrant until all traces of turbidity and color are gone.

3. Hydrants shall be opened and shut slowly to prevent damage from water hammer.

(b) In addition to the regularly scheduled flushing, the following conditions shall indicate a need to flush the entire system:

1. Turbidity within the distribution system greater than five (5) or one (1) nephelometric turbidity units, or NTU, as applicable to the system;

2. An inability to maintain an adequate residual of a disinfection agent in any part of the system; or

3. A heterotrophic plate count, or HPC, in excess of 500.

(c) Other indicators that flushing may be necessary shall be taste and odor complaints, color of water, contaminated water samples, or line repairs.

(14) A person shall not introduce into the water supply system a substance that may have a deleterious physiological effect, or for which physiological effects may not be known.

(15) Certified lab analysis required. For the purpose of determining compliance with the sampling requirements of 401 KAR Chapter 8, samples shall be analyzed by a laboratory certified by the cabinet as prescribed in [401 KAR 8:040](#), except that measurements for turbidity, disinfectant residuals, and other parameters specified by 40 C.F.R. [141.28](#) and [141.131](#) may be performed by a certified operator or an individual under the supervision of a certified operator.

(16) Right of entry. The cabinet may enter an establishment, facility, or other property of public and semipublic water supplies in order to determine whether the supplies have acted or are acting in compliance with applicable laws or regulations that the cabinet has the authority to enforce.

(a) Entry may include collection of water samples for laboratory analyses and inspection of records, files, papers, processes, controls and facilities required to be kept, installed, or used under the provisions of 401 KAR Chapter 8.

(b) The cabinet or its authorized agent may cause to be tested a feature of a public water system, including its raw water source, to determine compliance with applicable legal requirements.

(17) Recommended practices for water supply reservoirs to be used for drinking water. The following practices may be employed by water systems that have a lake primarily used as a source of raw drinking water:

(a) Prohibition of swimming, water skiing, and other contact sports;

(b) Prohibition of large motor-driven craft or any craft with toilets;

(c) A requirement that an area at least 100 feet wide from the upper pool elevation be kept clear of all sources of potential contamination such as septic tanks, drain fields, livestock, and barns;

(d) Prohibition of effluent from sewage treatment plants being discharged into the lake;

(e) Picnicking may be permitted around the lake if plans for the development of a picnic area meet regulatory requirements of the cabinet; and

(f) Implementation of a nonpoint source pollution control plan.

(18) Water treatment chemicals and system components. Chemical additives and protective materials, such as paints and linings, may be used by a water system if they meet the

requirements established in the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers' Recommended Standards for Water Works.

(19) Disposal of chlorinated water. Chlorinated water resulting from disinfection of treatment facilities and new, repaired, or extended distribution systems shall be disposed in a manner that shall not violate [401 KAR 10:031](#).

(20) Water loading stations. A public water system that provides water loading stations for the purpose of providing water to water hauling trucks or other bulk water devices shall construct the stations to conform to the standards in the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers' Recommended Standards for Water Works.

Section 3. The cabinet shall maintain records and submit reports as established in 40 C.F.R. [142.14](#) and [142.15](#).

Section 4. A public water system may receive a variance or exemption from some provisions of 401 KAR Chapter 8 only in accordance with [40 C.F.R. 141.4](#).

Section 5. A public water system may use noncentralized treatment devices only in accordance with [40 C.F.R. 141.100](#) or bottled water only in accordance with 40 C.F.R. 141, Sections [141.101](#).

Section 6. Incorporation by Reference. (1) "Recommended Standards for Water Works, 2003," A Report of the Committee of the Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers, is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m. This material is also available the division's Web site at www.water.ky.gov/dw. (17 Ky.R. 588; Am. 1425; eff. 11-15-1990; 18 Ky.R. 1170; 1845; eff. 11-26-1991; 20 Ky.R. 3015; 21 Ky.R. 313; eff. 8-24-1994; 27 Ky.R. 1552; 2511; 2732; eff. 4-9-2001; 31 Ky.R. 154; 740; 1090; eff. 1-4-2005; 35 Ky.R. 1517; 2010; eff. 4-3-2009; 36 Ky.R. 2088-A; 2321; eff. 6-3-2010.)